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Using Information Technology: For the Health of It

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Mr. Chairman and Congressman Clay, thank you for the opportunity to appear before you to discuss the benefits and challenges of utilizing health information technology (HIT) to improve the quality and delivery of health care.

My name is James Crane. I am an actively practicing physician and also serve as CEO of Washington University's faculty group practice. Our group practice is composed of 980 faculty physicians or roughly one in every 10 physicians practicing in the State of Missouri. We are the third-largest academic group practice in the nation and we encompass 53 different medical and surgical subspecialties. We care for nearly 300,000 patients annually with 75% of our clinical activity occurring here on the Medical Center campus and the remaining 25% distributed across 49 locations in suburban St. Louis and rural Missouri and Illinois. We are the largest Medicaid physician provider in the State of Missouri and a critical provider of specialty care for the uninsured.

I am here today to share with you our progress in implementing an electronic health record (EHR) for our patients, the benefits we hope to achieve and the hurdles we face.

Many of our patients have chronic and complex medical problems and require highly coordinated care involving several of our physicians. This, along with the geographically distributed nature of our clinical practice, were major catalysts for implementing an electronic health record.

EHR's offer many advantages for both patients and providers. My comments today will focus on four specific ways in which the quality and efficiency of patient care can be enhanced by HIT:

1) **The ability to have a single integrated patient chart**

Historically, each of our 53 subspecialties has maintained their own paper medical record system. As you can imagine, managing paper records for 300,000 patients seeking the care of 53 different subspecialties across a 130 acre campus, not to mention our dozens of off-campus clinics, is an enormous and highly complicated undertaking. Our EHR initiative allows us to integrate these separate paper charts into a single electronic health record for each patient. This gives all of the physicians involved in a patient's care instant access to all relevant medical information and eliminates the need to request paper records from multiple caregivers. Having immediate access to comprehensive patient information improves both the quality and efficiency of medical care.

2) **The ability to have real-time access to a patient's chart after-hours**

Patients commonly present at nights or on weekends with emergent and sometimes life-threatening situations, creating a challenge for physicians and nurses if a medical record is not immediately available. An integrated EHR provides the treating physician with instant access to a complete list of the patient's medical problems, their medications, and other information regarding their past medical history that can eliminate the need for redundant testing, expedite care and prove critical in guiding management and influencing clinical outcomes. In addition, the patient's medical record can be accessed via a HIPAA-compliant secure network from virtually any location, including a physician's academic office, their home or even from out-of-town.

3) **The opportunity to enhance patient safety**

The *Institute of Medicine* estimates that 1.5 million Americans are injured annually by preventable medication errors. Our EHR solution includes an e-prescribing component that guards against medication errors via built-in logic that automatically checks for proper dosage, drug allergies and potential adverse interactions with other medications the patient may be taking.

Another way to enhance patient safety is via the "task management" functionality built into our EHR solution. As an example, the system automatically alerts the ordering physician of

any abnormal lab results. This ensures that abnormal findings are acted upon promptly and not inadvertently lost or filed without physician review.

4) **The ability to advance medical discovery and define "best clinical practice" via clinical outcomes research**

As a research institution, Washington University is focused not only on providing the best clinical care possible, but also in finding ways to make care even better. Properly designed EHR's create a searchable database that can be used to answer important clinical questions about the efficacy and safety of new therapies and procedures. We are designing our EHR system in such a way that de-identified patient data can be mined, analyzed and utilized to advance the practice of medicine. Electronic retrieval of clinical data will become increasingly important in the future as advances in genomics allow us to tailor or personalize medical therapies to make them more effective and reduce unwanted side effects.

Let me move on now to two key challenges and "lessons learned" as we have deployed our enterprise-wide EHR at Washington University School of Medicine:

1) **The start-up costs are substantial!**

Once fully implemented, EHR's can enhance physician and support staff productivity and reduce operating expenses associated with paper record storage, dictation and transcription of physician notes and copying and faxing of paper records to referring physicians and other consultants involved in a patient's care. To achieve these improvements, the Medical School is investing $10.5 million to implement our EHR solution across the faculty practice, an average cost of $12,445 per faculty physician. Our experience suggests that while these gains will be sufficient to offset the ongoing maintenance costs for our EHR system, we will not recover the start-up and development costs. This is a significant challenge for us to fund internally and is the major reason we are phasing-in our EHR over a 4-year period.

The pace of EHR adoption on a national basis would be greatly accelerated if external public or private sector funding were made available to help providers defray the cost of migrating from paper record systems to electronic format. This would also be a sound investment for governmental and private payors. For example, the *Center for Health Information*

Technology has estimated that universal adoption of e-prescribing across the nation would save payors $29 billion annually thanks to systems that automatically alert physicians to formulary coverage and generic drug options. While payors would be the primary beneficiary of universal e-prescribing, physicians must bear the implementation and ongoing maintenance costs for e-prescribing systems.

One of the merits of HR 4832 is the creation of statutory safe harbors that would allow hospitals and payors to donate health IT software and hardware to physicians, thereby helping to mitigate the substantial financial costs associated with EHR adoption. As the door is opened for the donation of technology, we believe steps should be taken to ensure such assistance is motivated by the goals of improved patient care and quality and not for purposes of competitive advantage.

Direct federal funding to help providers implement EHR's would serve as an even greater catalyst to facilitate widespread physician adoption of health information technology and should be given serious consideration.

2) The complexity of designing an integrated EHR is significant!

A second key challenge in getting physicians to migrate to electronic health records is demonstrating their value. Busy clinicians must feel confident that an EHR will enhance their ability to deliver better care and enhance patient safety. Physicians also need assurances that any EHR solution will improve, not impede, physician and staff productivity. To provide these assurances, we have taken great care to design our EHR to meet the unique needs of each subspecialty in terms of what information is captured and how that information is organized in an electronic format to streamline work flow and efficiency.

We have developed a process for engaging the physician and support staff stakeholders within each subspecialty to customize the design of our EHR to meet their particular needs. This process takes, on average, six months to complete the design, train the physicians and staff and then "go-live."

We have also invested significant time and resources to building interfaces with other clinical information systems to provide our clinicians with the ability to review radiology studies, lab results and inpatient hospital data within a single integrated electronic record.

The “take home” lesson here is that designing and building a robust EHR requires careful thought, meaningful stakeholder engagement and most importantly, time. The complexity of EHR development and implementation needs to be appreciated by federal leaders as they craft legislation defining timelines and standards for electronic health records.

We recognize that legislation such as HR 4832 is intended to augment federal initiatives underway to foster the growth of interoperable health information systems. I am encouraged by such efforts, especially those to assist health care providers making this paradigm change.

Thank you again for the opportunity to share our experience and perspective for your understanding of these complex and important issues. I would be happy to entertain any questions you may have.